

Date: Monday, 6/19/2006 11:29:35 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FWD TUBE ASSEMBLY
Job Number	: 27634		
Estimate Number	: 10467		
P.O. Number	: <i>N/A</i>	Part Number	: D3391021
This Issue	: 6/19/2006	Drawing Number	: D3391 REV E
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: <i>N/A</i>	Drawing Revision	: E
Previous Run	: 27633	Material	: <i>N/A</i>
	Type : MACHINED PARTS	Due Date	: 7/30/2006
Written By	: <i>[Signature]</i>	Qty:	1 Um: Each
Checked & Approved By	: <i>[Signature]</i>		
Comment	: Est. A 05.09.13 New issue KJ/JLM : Est. B 06.02.10 Dwg rev.D ecn 773 EC : Est. C 06.05.02 Added inspections EC		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6013047	SKIDTUBE MAT'L
-----	----------	----------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
 SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	<i>B23235 DP06-6-22</i>

2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1  
 Cut extrusion to 46.52 +0.010 -0.020

*N/A*

3.0	BENDING	BENDING MACHINE
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Comment: No bender  
 Bend as per Dwg D3391 Using Bend Prog 3391021

*DP 06-6-22*

4.0	QC5	INSPECT WORK TO CURRENT STEP
-----	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

*BE 06-06-22*

5.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS CNC VERTICAL MACHINING #1  
 1-Machine as per Folio FA590 Rev. *AA* & Dwg D3391 Rev. *E*  
 Identify as D3391-1

2-Deburr

*7/10 06/07/10*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:29:35 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 27634

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*m 06/07/10 1*

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*3.6 06/08/03 1*

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill and c'sink float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)  
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Drill wearplate holes as per Dwg D3391 Using Dt8217 & DT8878

6--Deburr

*m 06-08-28 1*

*m 06-08-30 1*

*m 06-08-30 1*

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*DP 6-8-30*

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

*m-r 06/10/19 1*

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*DP 6-10-19*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:29:35 AM  
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## Process Sheet

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Drawing Name: FWD TUBE ASSEMBLY

Job Number: 27634

Part Number: D3391021

Job Number:



Seq. #: Machine Or Operation: Description :

12.0 POWDER COATING POWDER COATING



m103706



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

FR/M-L 07/03/14 (1)

13.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

P. 07/3/15 (1)

14.0 NAS1330C3KB166 INSERT



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Rivnut

Pick:

Qty	Part Number	Description	Batch
14	NAS1330C3KB166	Insert	100732

15.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Inserts as per Dwg

16.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

M 07/03/15 (1)

17.0 D3401041 Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Tow Cap Assembly

Pick:

Qty	Part Number	Description	Batch
1	D3401-041	Tow Cap	1329214

18.0 AN3C4A BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
4	AN3C4A	Bolt	m101390

FR/ 07/03/15 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: FWD TUBE ASSEMBLY

Job Number: 27634

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

NAS1515H3L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Washer

Pick:

Qty

Part Number

Description

Batch

4

NAS1515H3L

Washer

*m/103641*

20.0

AN960C10L

washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

washer

*~~m/103642~~ m/103344*

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Install tow Cap as per Dwg D3391

Identify as D3391-021

*FLI*

*07/05/15 ①*

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect thread of each insert using DT8821

*2003-19*

23.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

*PPP B 30817 07/3/20 ①*

24.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

*07/03/20 ①*

Job Completion



*U 07/03/20*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

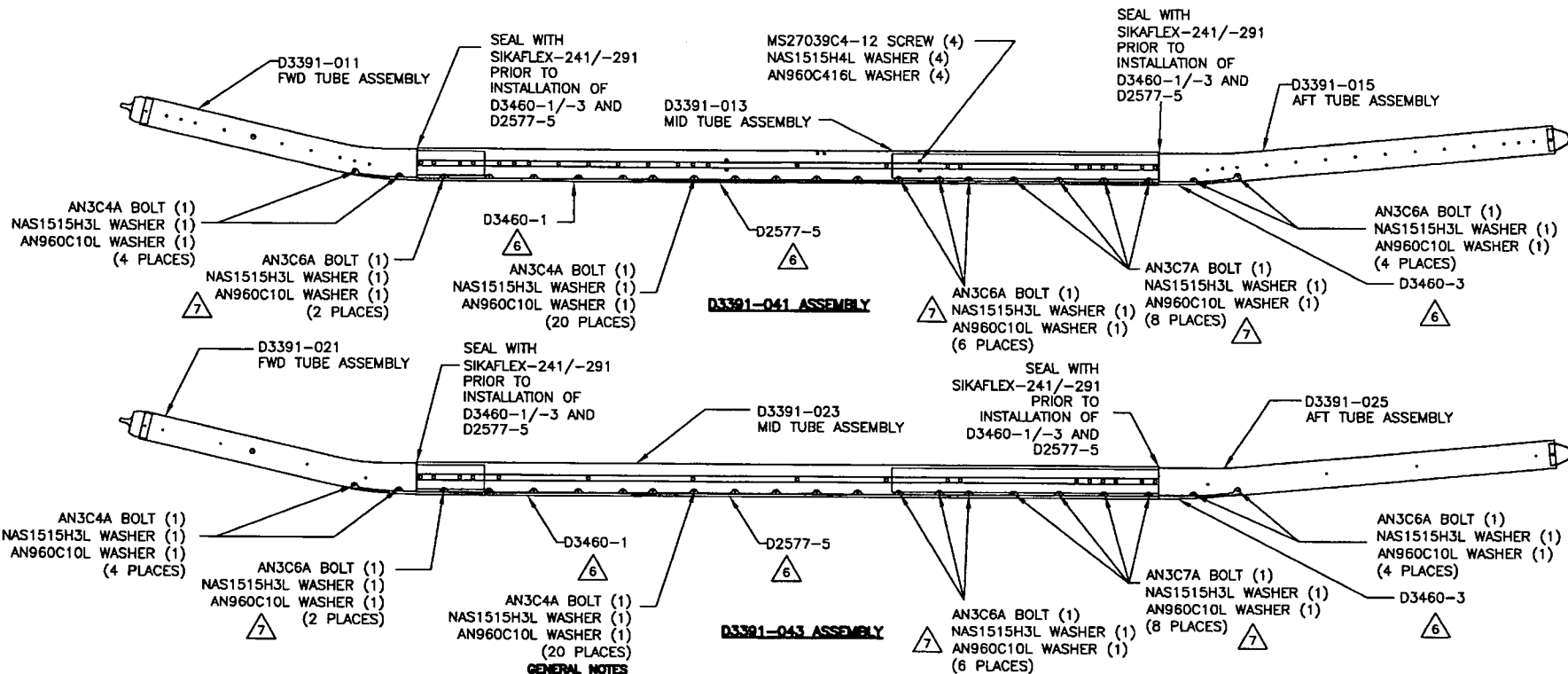
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_







#### D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

- GENERAL NOTES**
- 1) ALL DIMENSIONS ARE IN INCHES
  - 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
  - 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
  - 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL "E" SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS.
  - 6) C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
  - 7) APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES

D

RELEASED

06-05-03

E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE

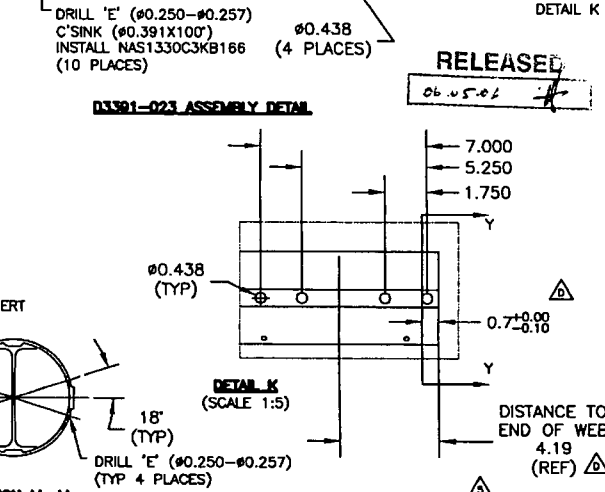
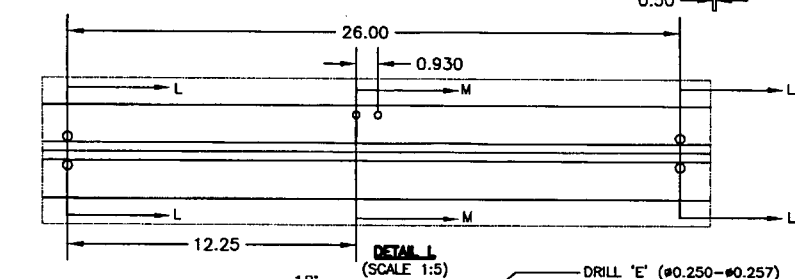
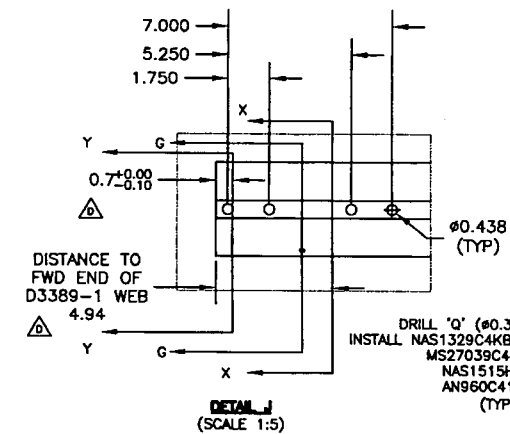
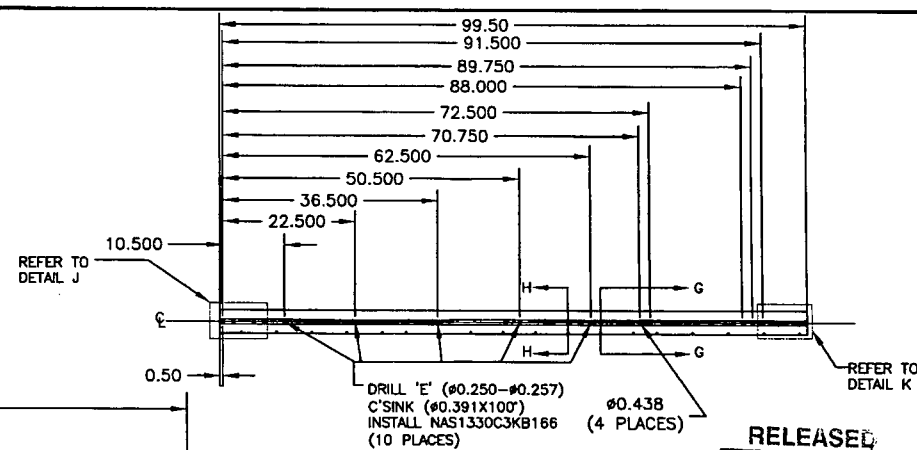
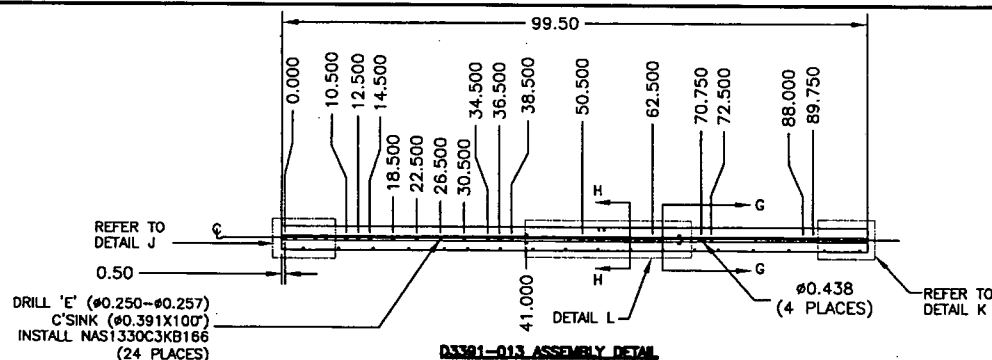
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		D3391	
DATE	TITLE	SCALE	NTS
06.04.25	412 FLOAT SKIDTUBE		

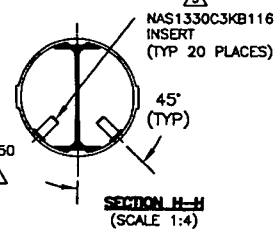
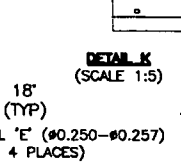
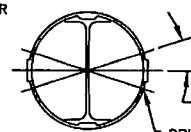
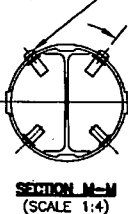
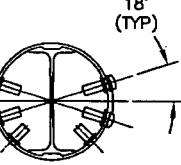
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DRILL 'Q' (#0.332-#0.338)  
INSTALL NAS1329C4KB140 INSERT  
MS27039C4-08 SCREW  
NAS1515H4L WASHER  
AN960C416L WASHER  
(TYP 4 PLACES)

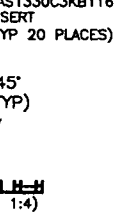
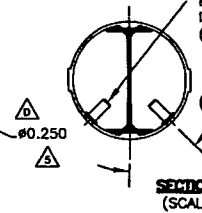
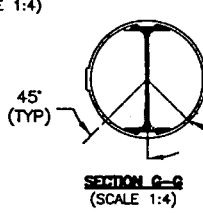
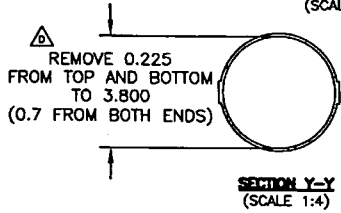
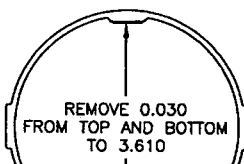
DRILL 'E' (#0.250-#0.257)  
C'SINK (#0.391X100)  
INSTALL NAS1330C3KB116 INSERT  
MS27039C1-09 SCREW  
NAS1515H3L WASHER  
AN960C10L WASHER  
(TYP 4 PLACES)



#### D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUBE ASSEMBLY
		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

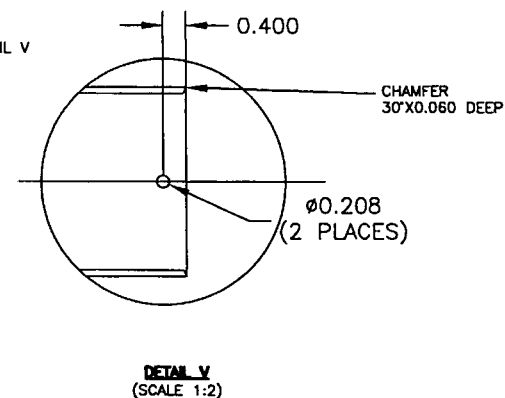
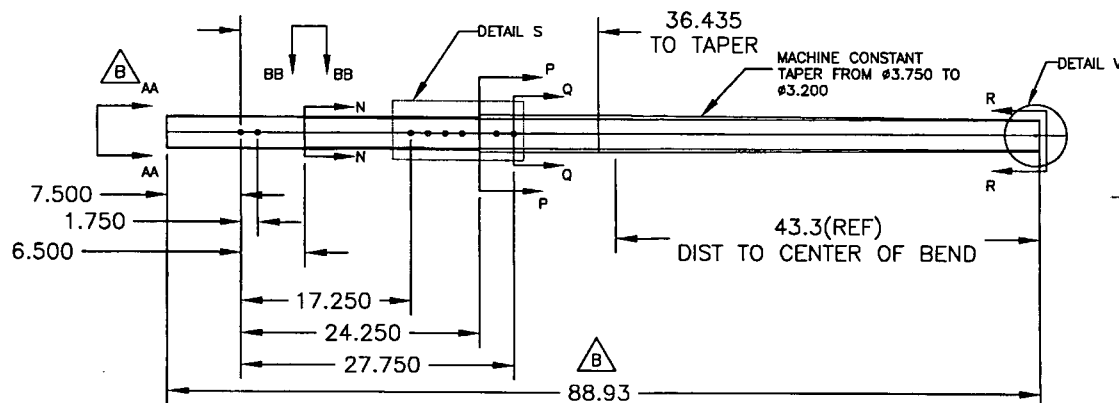
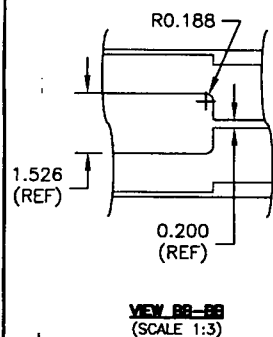
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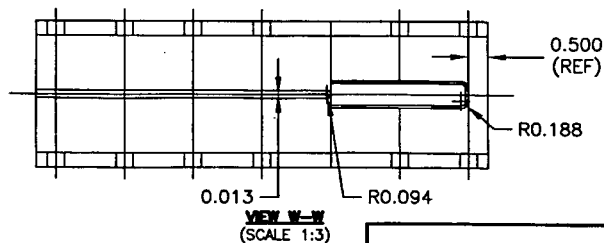
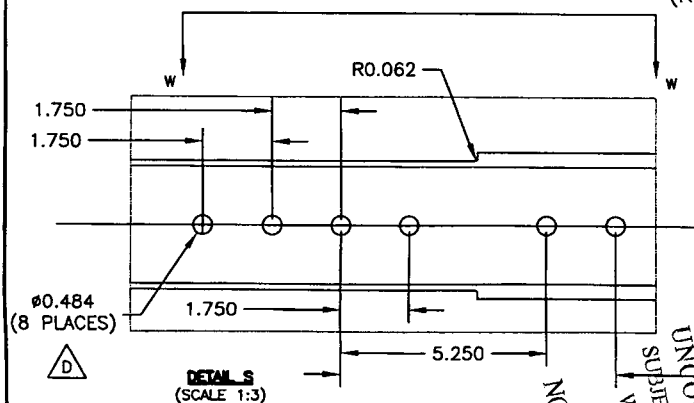
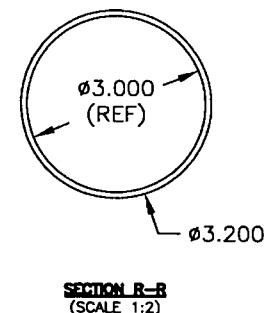
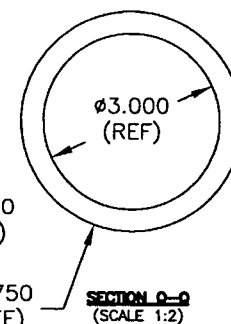
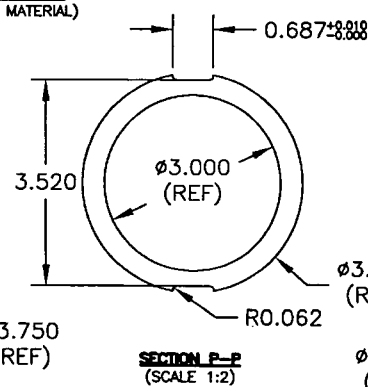
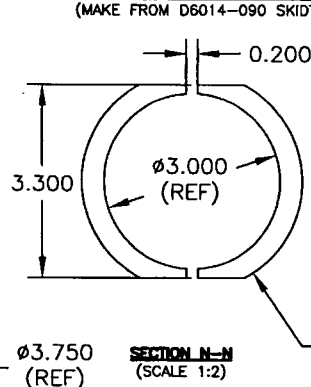
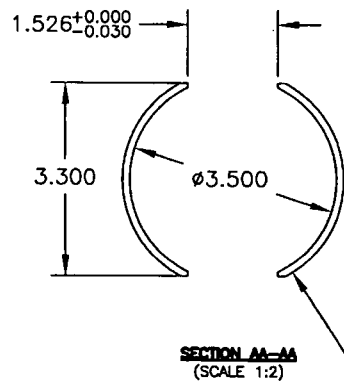
D3391-013/-023 MID TUBE ASSEMBLY  
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION  
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015

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DATE	06.04.25	D3391	SCALE	
TITLE			412 FLOAT SKIDTUBE	1:20

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**D3391-3 AFT DRILLING AND CUTTING DETAIL**  
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



RELEASED

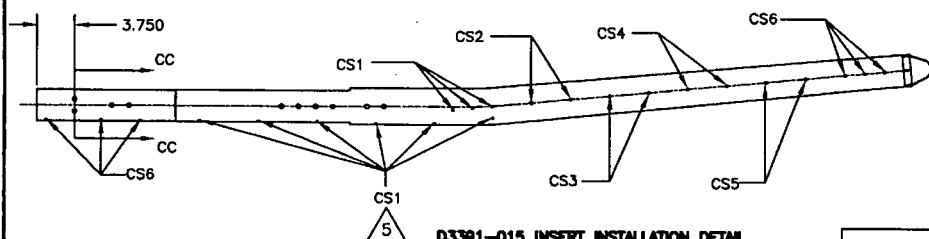
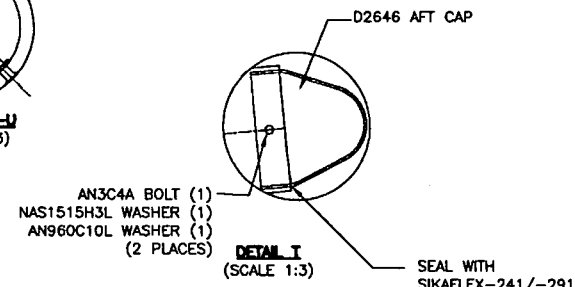
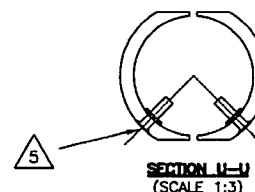
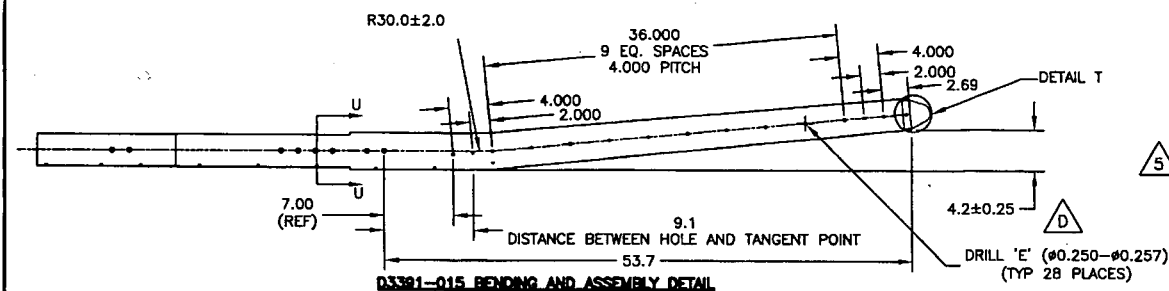
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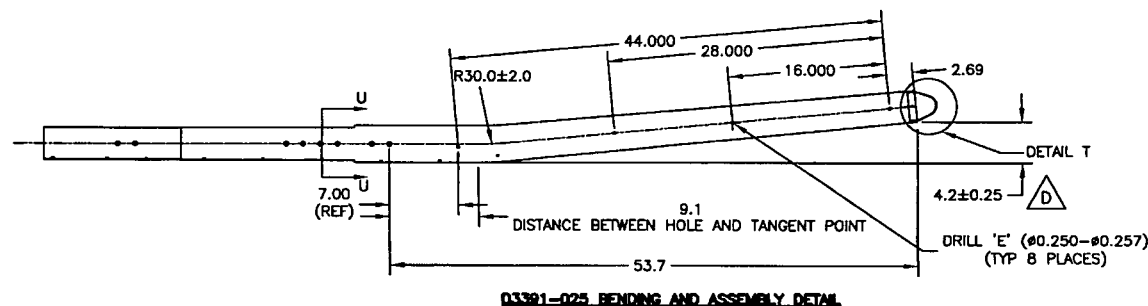
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DATE	06.04.25	TITLE	412 FLOAT SKIDTUBE	SCALE	1:12

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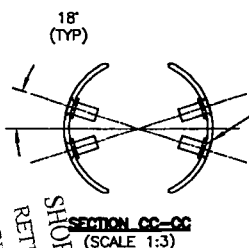
C'SINK AND INSTALL AESS10KBXXX AND/OR  
NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS  
FOLLOWS

HOLE MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB386
CS2	2	2	Ø0.391	AESS10KB386
CS3	4	2	Ø0.391	NAS1330C3KE316
CS4	4	2	Ø0.391	NAS1330C3KE266
CS5	4	2	Ø0.391	NAS1330C3KE216
CS6	12	8	Ø0.391	NAS1330C3KE166

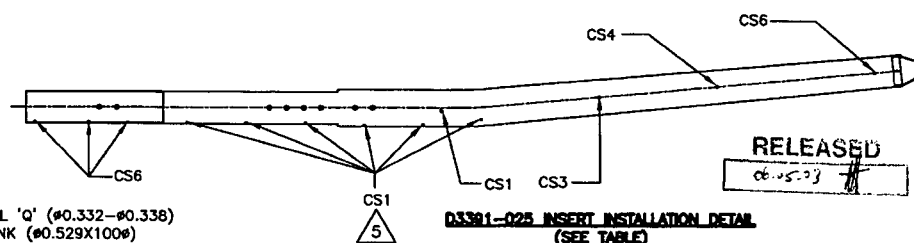


#### D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB386	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4	2	NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4	2	NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



DRILL 'Q' (#0.332-#0.338)  
C'SINK (#0.529X100#)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)



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		DATE	06.04.25	TITLE		412 FLOAT SKIDTUBE
		SHEET 5 OF 5				SCALE 1:12

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